

### Abstract

An antenna duplexer capable of optimally decreasing the insertion loss and the voltage standing wave ratio (VSWR) at a center frequency and its vicinity in the pass band in transmitter-band of the device. The output port of transmitter surface-acoustic-wave (SAW) filter (11) is electrically connected with phase shift circuit (13), to which receiver SAW filter (12) is also electrically connected. The transmitter and receiver SAW filters have different pass bands and attenuate the other pass band with each other. Phase shift circuit (13) shifts the phase of receiver SAW filter (12) in the transmitter-band. In addition, phase shift circuit (13) has the characteristic impedance in which the magnitude of the reflection coefficient at the center frequency in the transmitter-band of receiver SAW filter (12) is to be not less than 0.8 and the phase angle of reflection coefficient at the center frequency in the transmitter-band of receiver SAW filter (12) takes the range from  $0^\circ$  to  $45^\circ$ .

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